

Applicant: Victor Christou
Application No.: 09/445,050

IN THE CLAIMS

1-46. (Cancelled).

47. (Currently amended) Organometallic complex having the formula (I):

$[(Z(L)_3)_pM] A_q$

(I)

wherein Z is a carbon atom or R¹ - B fragment

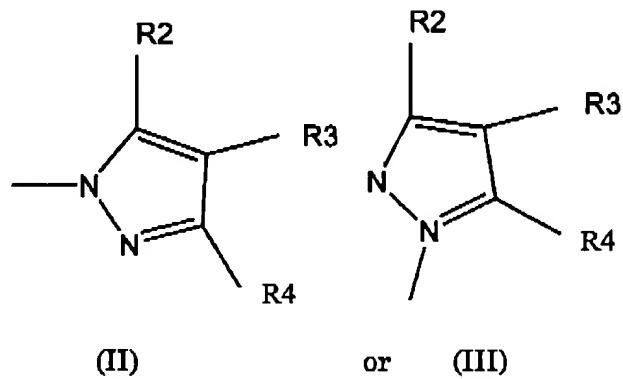
p is 1, 2 or 3

q is 3-p and

A is a counterion;

R¹ is: (i) hydrogen, aryl or aralkyl each optionally substituted with from one to five halogen or C₁ to C₆ alkyl groups; or (ii) C₁ to C₆ alkyl, C₁ to C₆ alkenyl or C₁ to C₆ alkynyl each optionally substituted with one or more halogen atoms;

each L is covalently bound to Z and is independently selected from a group of the formula (II) or (III)



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in which R², R³ and R⁴ are independently selected from:

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- (i) halogen, cyano, nitro, sulphono, amino, C₁ to C₆ alkylamino, C₁ to C₆ alkylamido, carboxyl, C₁ to C₆ alkyloxycarbonyl, hydroxy, C₁ to C₆ alkoxy, C₁ to C₆ alkylcarbonyloxy, C₁ to C₆ alkylcarbonyl C₁ to C₆ haloalkoxy and hydrogen;
- (ii) aryl or aralkyl each optionally substituted on the aryl ring or, for aralkyl, on the alkylene chain with from one or more of the groups mentioned under (i) above; and or
- (iii) C₁ to C₆ alkyl, C₁ to C₆ alkenyl or C₁ to C₆ alkenyl or C₁ to C₆ alkynyl each optionally substituted with one or more of the groups mentioned under (i) and (ii) above;

R⁴ and/or R³ is ~~(CX₂)_nX~~ wherein n is 0 or a positive integer from 1 to 6 and X is halogen; or R⁴ is orthodihalogenated or orthodiperhalomethylated aryl, optionally further substituted on the aryl ring; or

or either R² and R³ or R³ and R⁴ are linked so as to form a fused aromatic or non-aromatic ring system with the pyrazolyl ring of L; and M is a trivalent lanthanide metal ion.

48. (Previously added) Complex as claimed in claim 47, wherein M is Tb, Ce, Eu, Er, Gd, Tm, Sm or Nd.

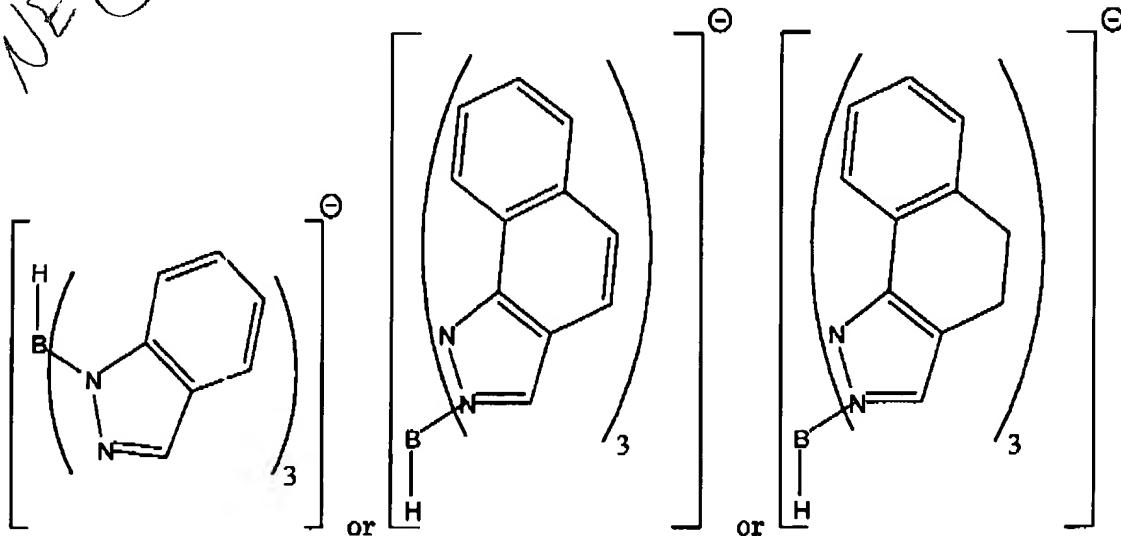
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NE 49. (Previously added) Complex as claimed in claim 47, wherein R⁴ is trifluoromethyl.

NE 50. (Previously added) Complex as claimed in claim 47, wherein R³ is hydrogen and R² is trifluoromethyl.

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51. (Previously added) Complex as claimed in claim 47, wherein Z is H-B.

NE 52. (Previously added) Complex as claimed in claim 47, wherein ZL₃ is



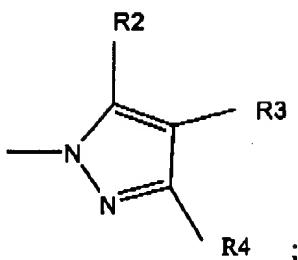
53. (Previously added) Complex as claimed in claim 47, wherein A is CF₃SO₃⁻, halide, nitrate or perchlorate.

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54. (Currently amended) Complex as claimed in claim 47, wherein:

Z is H-B;

L is



M is Tb;

A is CF₃SO₃;

X is halogen;

R1 is H;

R2 is CH₃;

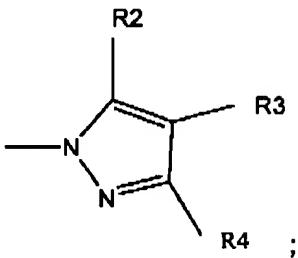
R3 is H; and

R4 is CH₃.

55. (Currently amended) Complex as claimed in claim 48, wherein:

Z is H-B;

L is



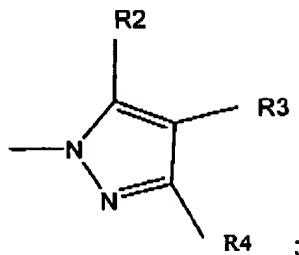
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M is Tb;
A is CF₃SO₃;
~~X is halogen;~~
R1 is H;
R2 is CH₃;
R3 is H; and
R4 is CH₃.

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56. (Currently amended) Complex as claimed in claim 51, wherein:

L is



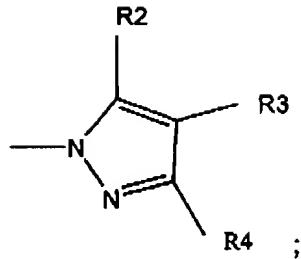
M is Tb;
A is CF₃SO₃;
~~X is halogen;~~
R1 is H;
R2 is CH₃;
R3 is H; and
R4 is CH₃.

57. (Currently amended) Complex as claimed in claim 53, wherein:

Z is H-B;
L is

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M is Tb;

A is CF₃SO₃;

X is halogen;

R1 is H;

R2 is CH₃;

R3 is H; and

R4 is CH₃.